

## ABSTRACT

A method for obtaining wood-cell attributes from cellulose containing samples includes the steps of radiating a cellulose containing sample with a beam of radiation, the radiation having an energy capable of passing through the sample.

5 Radiation attenuation information is collected from radiation which passes through the sample. The source is rotated relative to the sample and the radiation and collecting steps repeated. A projected image of the sample is formed from the collected radiation attenuation information, the projected image including resolvable features of the cellulose containing sample. Cell wall thickness, cell diameter (length) and cell vacuole diameter can be determined. A system for obtaining physical measures from cellulose containing samples includes a radiation source emitting radiation having an energy capable of passing through cellulose containing samples, a radiation detector for collecting radiation attenuation information from radiation which passes through the sample, and structure for rotating the source relative to said sample. The system forms an image of the sample from the radiation attenuation information, the image including resolvable features of the sample.